

Concept Question 2-14: What are the three damping conditions of the impulse response?

Overdamped, in which the impulse response is the linear combination of two decaying exponential functions, for $t > 0$.

Underdamped, in which the impulse response is an exponentially decaying sinusoid, for $t > 0$.

Critically damped, in which the impulse response has the form $h(t) = (A + Bt)e^{-at} u(t)$.